MARYLAND DEPARTMENT OF THE ENVIRONMENT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

STATE AND FEDERAL
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEM DISCHARGE PERMIT

GENERAL DISCHARGE PERMIT NO. 13-SF-5501
GENERAL NPDES NO. MDR055501

Effective Date: TBD
Expiration Date: TBD

PART I. COVERAGE UNDER THIS GENERAL PERMIT

A. Permit Area

This National Pollutant Discharge Elimination System (NPDES) permit covers small municipal separate storm sewer systems (MS4s) in certain portions of the State of Maryland as defined under Title 40 of the Code of Federal Regulations (CFR) 122.26(b)(16) and located within the geographical area of:

1. Municipalities defined as "large" or "medium" MS4s under 40 CFR 122.26(b) that are permitted currently under an individual NPDES municipal stormwater permit;

2. Urbanized areas as determined by the latest Decennial Census by the Bureau of the Census; or

3. Other areas designated by the Maryland Department of the Environment (MDE) according to criteria in Appendix A.

B. Eligibility

Small MS4s within the "Permit Area" specified in PART I.A. above that are eligible for coverage under this general permit include those that:

1. Are owned, operated, or maintained by the State of Maryland or the United States of America (U.S.); and

2. Serve developed land area greater than 5 acres. Designation criteria are included in Appendix A of this general permit.

C. Obtaining Coverage

Owners of regulated small MS4s shall apply for coverage under this general permit by submitting a Notice of Intent (NOI) according to requirements in PART II below, using the form provided by MDE in Appendix C. A list of State and federal agencies requiring permit

coverage is found in Appendix A. Others not listed that meet permit area and eligibility criteria described above are required to file an NOI as well. An NOI may represent:

1. An individual State or federal property; or

2. MS4s owned, operated, or maintained by a single government entity with multiple properties;

D. Definitions

Terms used in this permit are defined in relevant chapters of 40 CFR Part 122 or the Code of Maryland Regulations (COMAR) 26.08.01, 26.17.01, and 26.17.02. Terms not defined in CFR or COMAR shall have the meanings attributed by common use.

PART II. NOTICE OF INTENT REQUIREMENTS

A. Deadlines for Notification

Small MS4 owners and operators in the State of Maryland and U.S. government properties within the "Permit Area" specified in PART I.A. above that seek to renew coverage under this general permit shall submit to MDE a new or updated NOI that contains the information outlined in PART II.B. within ninety days of the effective date of this permit.

New permittees, including those that are designated as an MS4 as a result of the 2010 census, shall submit an NOI to MDE that contains the information outlines in PART II.B within 180 days of notification from the Department that they are required to obtain permit coverage.

B. Contents

An NOI serves as the application for coverage under this general permit. A permittee may file an application for an individual property or file a joint application that include multiple MS4s owned, operated, or maintained by an individual government entity located within the "Permit Area" specified in PART I.A. above.

The NOI form is provided in Appendix C of this permit. ~~At a minimum, t~~The NOI shall contain the following:

1. The name and address of each property for which coverage under this general permit is being sought;

2. The name, address, telephone number, and e-mail address of an appropriate contact person for each property listed in B.1. above;

3. A brief description of each property for which coverage is being sought. This shall include the approximate size, land uses, existing impervious areas and best management practices (BMPs), a description of the stormwater conveyance system, other NPDES permits that have been issued by MDE, and other relevant information

for each property;

4. A description of the BMPs to be implemented and the measurable goals that will address requirements under PART IV of this general permit. Guidance for BMP implementation and measurable goals is included in Appendix B, Section II and shall be reported according to Table 1;

5. A work plan that outlines activities and milestones necessary to meet impervious area restoration requirements identified under PART V of this general permit. A suggested work plan is provided in Appendix B, Table 2;

6. A list of responsible personnel that will implement the BMPs and other program components to satisfy each requirement under PARTS IV and V of this general permit;

7. An estimate of the anticipated expenditures to implement the minimum control measures and impervious area restoration activities; and

8. An authorized signature according to PART VII. N. of this general permit.

C. Where to Submit

State of Maryland and U.S. government entities seeking coverage under this general permit shall submit NOIs to the following:

Maryland Department of the Environment
Water Management Administration
Sediment, Stormwater, and Dam Safety Program
1800 Washington Boulevard
Baltimore, Maryland 21230-1708

PART III. COMPLIANCE WITH WATER QUALITY STANDARDS

State and federal government entities covered under this general permit must manage, implement, and enforce a stormwater management program in accordance with the Clean Water Act (CWA) and corresponding stormwater NPDES regulations, 40 CFR Part 122, to meet the following requirements:

1. Effectively prohibit pollutants in stormwater discharges or other unauthorized discharges into the MS4 as necessary to comply with Maryland's receiving water quality standards;

2. Attain applicable wasteload allocations (WLAs) for each established or approved Total Maximum Daily Load (TMDL) for each receiving water body, consistent with Title 33 of the U.S. Code (U.S.C.) § 1342(p)(3)(B)(iii); 40 CFR § 122.44(k)(2) and (3); and

3. Comply with all other provisions and requirements contained in this general permit, and in plans and schedules developed in fulfillment of this permit.

Compliance with the conditions contained in Parts IV and V of this permit shall constitute compliance with § 402(p)(3)(B)(iii) of the CWA and adequate progress toward compliance with Maryland's receiving water quality standards and any Environmental Protection Agency (EPA) approved stormwater WLA for this permit term.

PART IV. MINIMUM CONTROL MEASURES

~~The minimum control measures to control stormwater discharges are composed of six programmatic elements that include Public Education and Outreach, Public Involvement and Participation, Illicit Discharge Detection and Elimination, Construction Site Runoff Control, Post Construction Stormwater Management, and Pollution Prevention and Good Housekeeping.~~ Entities seeking coverage under this general permit shall, as part of their NOI submittal, include a description of how the measurable goals will be implemented~~selected~~, the appropriate BMPs to be used, and a schedule for implementation to address each minimum control measure. A list of ~~suggested~~acceptable BMPs, measurable goals, reporting requirements, and further guidance for each control measure is provided in Appendix B, Section II of this general permit.

Permittees can choose to utilize partnerships or share responsibilities with other entities for compliance with any requirement of this general permit. This may entail establishing partnerships with the surrounding County or municipality performing similar activities under the requirements of an NPDES MS4 permit. If responsibilities for permit compliance are shared between the permittee and another entity, the relationship and specific duties of all participating entities shall be outlined in the NOI submitted to MDE according to PART II of this general permit. However, the permittee ~~wi~~shall remain responsible for compliance with all conditions of this general permit. For this reason, a legally binding contract, memorandum of understanding (MOU), or other similar means shall~~ould~~ be executed between and among the permittee and the other entity to avoid conflicts resulting from noncompliance with this general permit.

A. Public Education and Outreach

Renewal ~~P~~permittees shall update, implement, and maintain a public education and outreach program to distribute educational materials to the community and employees to help reduce the discharge of pollutants caused by stormwater runoff.

New permittees shall develop, within one year of permit coverage, a public education and outreach program to distribute educational materials to the community and employees to help reduce the discharge of pollutants caused by stormwater runoff. The program shall be implemented and maintained throughout the term of the permit.

~~At a minimum, t~~The public education program shall contain materials describing the impacts of stormwater discharges on receiving waters, why controlling these discharges is important, and what actions the public can take to reduce pollutants in stormwater runoff. See Appendix B. II. for more information regarding acceptable BMPs and measurable goals.

B. Public Involvement and Participation

Renewal ~~P~~permittees shall update, implement, and maintain a public involvement and participation program.

New permittees shall develop, within one year of permit coverage, a public involvement and participation program. The program shall be implemented and maintained throughout the term of the permit.

The permittee shall~~, at a minimum,~~ comply with all State and federal public notice requirements in actions or decisions having to do with stormwater management. The permittee shall provide opportunities for the public to participate in the development, review, and implementation of stormwater pollution control programs. See Appendix B. II. for more information regarding acceptable BMPs and measurable goals.

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C. Illicit Discharge Detection and Elimination

Renewal ~~P~~permittees shall update~~develop~~, implement, and maintain a program to identify and eliminate illicit storm drain system connections and non-stormwater discharges to the MS4. The program shall include a system to inform public employees, businesses, and the general public of the hazards associated with illegal discharges and the improper disposal of waste. ~~maximum extent practicable (MEP)~~.

To satisfy this minimum control measure, ~~the~~renewal permittees shall provide an updated map of the storm drain system, including the location of all stormwater ~~and~~ outfalls and the names and locations of receiving waters which receive those discharges, update and implement~~develop~~ standard operating procedures for field screening and inspecting 10% of storm drain system outfalls annually, identify the source of any illicit discharges, eliminate any illegal connection or illicit discharge to the storm drain system, and consistent with local ordinances or other regulatory mechanisms through which the permittee can effectively prohibit any non-stormwater discharges, including appropriate enforcement procedures, penalties, and actions ~~where appropriate~~. ~~The illicit discharge program shall also contain components to allow for reporting and addressing of illegal dumping and spills. Significant discharges shall be reported to MDE for enforcement and/or permitting. See Appendix B. II. for more information regarding acceptable BMPs and measurable goals.~~

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New permittees shall develop, within 18 months of permit coverage, a program to identify and eliminate illicit storm drain system connections and non-stormwater discharges to the MS4. The program shall include a system to inform public employees, businesses, and the general public of the hazards associated with illegal discharges and the improper disposal of waste. The program shall be implemented and maintained throughout the term of the permit.

For all permittees, the illicit discharge program shall also contain components to allow for reporting and addressing of illegal dumping and spills. Significant discharges shall be reported to MDE for enforcement and/or permitting. See Appendix B. II. for more information regarding acceptable BMPs and measurable goals.

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D. Construction Site Stormwater Runoff Control

The Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland establishes a statewide erosion and sediment control program to control construction site runoff. This statute, coupled with COMAR, specifies the requirements for any construction activity that disturbs five thousand (5,000) square feet or more of earth or involves 100 cubic yards or more of earth movement. ~~Because Maryland has an erosion and sediment control program in place that regulates more earth disturbing activities than the NPDES stormwater program, MDE considers compliance with the State statute to be compliance with this minimum control measure, this general permit, and CFR.~~

COMAR contains procedures for approving proposed construction drawings and erosion and sediment control plans prior to the start of any development. State regulations also define erosion and sediment control plan review and enforcement responsibilities. Typically, erosion and sediment control plans are reviewed and approved by MDE for State and federal construction projects. Enforcement of approved erosion and sediment control plans statewide is MDE's responsibility. Permittees shall comply with all State and federal laws, regulations, ordinances, and procedures relating to erosion and sediment control.

In order to comply with State and Federal regulations, new permittees shall develop and renewal permittees shall update, implement, and enforce a program to reduce pollutants in any stormwater runoff from construction activities including:

a) Compliance with local ordinances or regulatory mechanisms that require erosion and sediment controls, as well as sanctions to ensure compliance;
b) Requirements for construction site operators to implement appropriate erosion and sediment control BMPs;
c) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;
d) Procedures for site plan review which incorporate consideration of potential water quality impacts;
e) Procedures for receipt and consideration of information submitted by the public; and
f) Procedures for site inspection and enforcement of control measures.

E. Post Construction Stormwater Management

The Environment Article, Title 4, Subtitle 2, Annotated Code of Maryland establishes a statewide stormwater management program. This statute, coupled with COMAR, requires that stormwater management for new development and redevelopment be addressed for any proposed project that disturbs five thousand (5,000) square feet or more of earth. ~~Because Maryland has a stormwater management program in place that regulates new and redevelopment projects, MDE considers compliance with the State statute to be compliance with this minimum control measure, this general permit, and CFR.~~

COMAR contains procedures for approving proposed construction drawings and stormwater management plans prior to the start of any development. State regulations also define stormwater management plan review and enforcement responsibilities. Typically, stormwater

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management plans are reviewed and approved by MDE for State and federal construction projects. Enforcement of approved stormwater management plans for State and federal projects is MDE's responsibility.

Commented [BK8]: This does not offer any permit conditions or instructions to permittees. Fact sheet language.

Permittees shall comply with all State and federal laws, regulations, ordinances, and procedures relating to stormwater management, including implementing the principles, methods, and practices found in the *2000 Maryland Stormwater Design Manual, Volumes I & II* (Manual), and the *Maryland Stormwater Management Guidelines for State and Federal Projects* (April 15, 2010).

In order to comply with State and Federal regulations, new permittees shall develop and renewal permittees shall update, implement, and enforce a program to prevent or minimize water quality impacts of stormwater runoff from new or redevelopment projects including:

a) Developing or updating, and implementing strategies which include a combination of structural and non-structural BMPs;
b) Complying with local ordinances or other regulatory mechanisms to address post-construction runoff from new and redevelopment projects; and
c) Ensuring adequate long-term operation and maintenance of BMPs.

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F. Pollution Prevention and Good Housekeeping

New ~~P~~permittees shall develop, implement, and maintain pollution prevention and good housekeeping techniques and procedures to reduce pollutants from all operations performed by State or federal permittees.

Renewal permittees shall update, implement, and maintain pollution prevention and good housekeeping techniques and procedures to reduce pollutants from all operations performed by State or federal permittees.

All permittees shall ensure that their programs ~~Components of this minimum control measure shall~~ include developing or updating, and implementing, policies and procedures that effectively reduce pollutant discharges to the storm drain system from facility operations such as waste water treatment, drinking water, fleet yard operations, maintenance garages, parks and recreation, street and infrastructure maintenance, and grounds maintenance. In addition, the program shall include a mandatory annual training requirement for all State and federal employees.

The 2014 General Permit for Stormwater Discharges Associated with Industrial Activities established a new Sector AD.a which provides coverage to Department of Public Works and Highway Maintenance facilities. As a result, municipal facilities may require additional NPDES permit coverage beyond this MS4 permit. All facility activities shall be properly permitted under NPDES or any other appropriate State or federal water pollution control program. See Appendix B. II. for more information regarding acceptable BMPs and measurable goals.

PART V. SPECIAL PROGRAMMATIC CONDITION

Chesapeake Bay Restoration and Meeting Total Maximum Daily Loads

~~A Chesapeake Bay TMDL has been developed by the EPA for the six Bay States (Delaware, Maryland, New York, Pennsylvania, Virginia, and West Virginia) and the District of Columbia. The TMDL describes the level of effort that is necessary to meet water quality criteria and restore Chesapeake Bay. The TMDL is an aggregate of nonpoint sources or the load allocation (LA) and point sources or WLA, and a margin of safety. The State is required to issue NPDES permits to point source discharges that are consistent with the assumptions of any applicable TMDL.~~

~~Urban stormwater is defined in the CWA as a point source discharge and is subsequently part of Maryland's WLA. NPDES stormwater permits play a significant role in regulating pollutants from the urban sector and are an essential management component of Chesapeake Bay Watershed Implementation Plans (WIP). Therefore, Maryland's NPDES stormwater permits support the Maryland WIP strategy and are being used as the regulatory backbone for controlling urban pollutants toward meeting Chesapeake Bay and other local TMDLs.~~

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Maryland's WIP strategy for achieving nutrient and sediment load reductions for small MS4s covered under this general permit is to complete impervious area restoration for twenty percent of existing developed lands with little or no stormwater management by the end of this permit term. Permittees must comply with this strategy. This will constitute adequate progress toward compliance with Maryland's receiving water quality standards and any EPA approved stormwater WLA for this permit term. Restoration efforts may include the use of environmental site design (ESD) practices, structural stormwater BMPs, retrofitting, stream channel restoration, and other alternative restoration practices. Acceptable design criteria for stormwater BMPs are outlined in the Manual, Appendix B of this permit, and other MDE guidance documents. A permittee will demonstrate compliance with this requirement by performing the following:

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1. Develop an inventory of total impervious area for each property covered by this general permit. This includes all roadways, parking areas, buildings, and any surface that prevents stormwater runoff from soaking into the ground;

2. Determine the impervious area subject to twenty percent restoration. This involves:

   a. Develop an inventory of all existing stormwater water quality BMPs,
   b. Determine total area draining to each water quality BMP,
   c. Determine impervious area draining to each water quality BMP, and
   d. Subtract total impervious areas draining to water quality BMPs from total impervious area;

3. Evaluate opportunities for water quality BMP implementation. To meet restoration criteria, the permittee shall provide water quality treatment for one-inch of rainfall from the impervious area draining to each BMP;

4. Provide a schedule for water quality BMP implementation. Timelines to show completion of the twenty percent restoration requirement shall be established (see Appendix B, Table 3, for Restoration Activity Schedule);

5. Perform routine maintenance and inspection for all new and existing BMPs;

6. Update and submit Urban BMP data in spreadsheet format in accordance with the database structure outlined in Appendix B, Table 4;

7. Tabulate and report impervious area treatment credit for water quality BMP implementation in accordance with guidance in Appendix B, Section III; and

8. Annually report the status of implementation on Restoration Activity Schedule in accordance with Appendix B, Table 3. Develop adaptive management strategies needed to keep implementation on pace to meet restoration requirements.

The permittee must submit a work plan as part of the NOI application to show the activities and milestones that will be performed over the permit term to complete the twenty percent impervious acre restoration goal by the end of this permit term. This will form the basis of a long term plan; however, the plan may be adjusted and refined over the course of the permit term. Any adjustments and/or modifications must be submitted to MDE for review and approval. A suggested work plan is provided in Appendix B, Table 2. Permittees may use the suggested work plan, or develop a modified plan for MDE approval of the NOI application.

PART VI. EVALUATION, RECORDKEEPING, REPORTING, AND PROGRAM REVIEW

A. Evaluation and Assessment

The permittee must evaluate program compliance, the appropriateness of implemented BMPs, and progress toward achieving compliance with all permit requirements. This shall be achieved through reporting to MDE as specified in PART VI.C below.

B. Recordkeeping

The permittee shall keep records under this general permit for at least three (3) years after termination of this general permit. Records shall be submitted to MDE only when permittees are specifically asked to do so. The permittee shall make its records and its stormwater management program information available to the public at reasonable times during regular business hours.

C. Reporting

1. Annually, the permittee shall submit a report to MDE that evaluates progress toward meeting the twenty percent impervious area restoration requirement specified in Part V, above. ~~At a minimum, t~~This annual report shall include:

   a. A brief narrative that evaluates progress made in implementing the work plan outlined in the NOI application. A brief discussion of the analysis used to determine impervious area restoration goals and management strategies to be implemented in order to meet requirements;
   b. An updated Urban BMP database in accordance with Appendix B, Table 4 in

electronic format; and a brief narrative discussing progress made toward completing the database and performing routine maintenance; and

c. A Restoration Activity Schedule in accordance with Appendix B, Table 3; and a brief narrative describing restoration activities during the reporting year. Any adjustments or alternative strategies needed for achieving restoration requirements by the end of the permit term shall be described.

2. In addition to annual reporting in accordance with PART VI.C.1 above, periodic reports must be submitted in years two and four of the permit term to detail progress related to the six minimum control requirements specified in Part IV of this permit. Appendix B, Table 1 shall be used for reporting progress and shall include the following:

a. The status of compliance with permit conditions, an assessment of the appropriateness of the identified BMPs, and the progress toward achieving the identified measurable goals for each minimum control measure;
b. Results of information collected and analyzed during the reporting period;
c. A summary of the stormwater activities the permittee plans to undertake during the next reporting cycle;
d. A change in any identified BMP or measurable goals (see Appendix B) that apply to the minimum control measures;
e. A description of the coordination efforts with other agencies regarding the implementation of the minimum control measures including the status of any MOU or other agreement executed between the permittee and another entity; and
f. A fiscal analysis of capital and operating expenditures to implement the minimum control measures. The fiscal analysis shall include only those expenditures by the agency seeking coverage under this general permit.

D. Program Review

In order to assess the effectiveness of the permittee's NPDES program for eliminating non-stormwater discharges and reducing the discharge of pollutants ~~to the MEP~~, MDE will review program implementation and annual and periodic reports. Procedures for the review of local erosion and sediment control and stormwater management programs exist in Maryland's sediment control and stormwater management laws. Additional periodic evaluations may be conducted to determine compliance with permit conditions.

PART VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The permittee must comply with all conditions of this general permit. Any permit noncompliance constitutes a violation of the CWA and is grounds for enforcement action, permit coverage termination, revocation, or modification. The permittee shall comply at all times with the provisions of the Environment Article, Title 4, Subtitles 1, 2, and 4; Title 7, Subtitle 2; and Title 9, Subtitle 3, Annotated Code of Maryland.

B. Failure to Notify

Agencies engaging in an activity under this general permit that fail to notify MDE of their intent to be covered under this general permit as described in PART II and who discharge to waters of the State without submitting an NOI application are in violation of the Environment Article, Annotated Code of Maryland and may be subject to penalties.

C. Limitations on Coverage

1. This general permit authorizes the following non-stormwater discharges when properly managed: landscape irrigation, diverted stream flows, rising groundwater, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, foundation drains, air conditioning condensate, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering runoff, flows from riparian habitats and wetlands, residual street wash water, and discharges or flows from fire fighting activities.

2. Non-stormwater sources, stormwater associated with industrial activity, or discharges associated with construction activities may be authorized to discharge via the municipal separate storm sewer system if such discharges are specifically authorized under an applicable NPDES discharge permit or are identified by and in compliance with this general permit.

3. Only stormwater discharges from municipal separate storm sewer systems located on State or federal property are authorized to discharge under this general permit.

D. Penalties Under the CWA - Civil and Criminal

Section 309(g)(2) of the CWA, 33 U.S.C. §1319(g)(2) provides that any person who violates any permit condition is subject to a civil penalty not to exceed $10,000 per day for each violation, not to exceed $125,000. Pursuant to the Civil Monetary Penalty Inflation Adjustment Rule, 40 CFR Part 19 (effective January 12, 2009), any person who violates any NPDES permit condition or limitation after January 12, 2009 is liable for an administrative penalty not to exceed $16,000 per day for each such violation, up to a total penalty of $177,500. Pursuant to Section 309(c) of the CWA, 33 U.S.C. §1319(c), any person who negligently violates any permit condition is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than 1 year, or both. Any person who knowingly violates any permit condition is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both.

E. Penalties Under the State's Environment Article - Civil and Criminal

Nothing in this general permit shall be construed to preclude the institution of any legal action nor relieve a permittee from civil or criminal responsibilities and/or penalties for noncompliance with Title 4, Title 7, and Title 9 of the Environment Article, Annotated Code of Maryland, or any federal, local, or other State law or regulation.

The Environment Article, § 9-342(a), Annotated Code of Maryland, provides that any person who violates a permit condition is subject to a civil penalty not to exceed $10,000

per day.

The Environment Article, § 9-342(b), Annotated Code of Maryland, provides that any person who violates a permit condition is subject to a civil administrative penalty up to $5,000 for each violation, but not exceeding $50,000 total.

The Environment Article, § 9-343(a), Annotated Code of Maryland, provides that any person who willfully or negligently violates a permit condition is subject to a criminal penalty not exceeding $25,000 or imprisonment not exceeding 1 year, or both, for a first offense. Later offenses are subject to a criminal penalty of $50,000 or imprisonment not exceeding two years, or both.

The Environment Article, § 9-343(b), Annotated Code of Maryland, provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this general permit shall, upon conviction, be punished by a fine of not more than $50,000 per violation, or by imprisonment for not more than two years per violation, or both.

The Environment Article, § 9-343(b), Annotated Code of Maryland, provides that any person who knowingly makes any false statement, representation, or certification in any records or other document submitted or required to be maintained under this general permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $50,000 per violation, or by imprisonment for not more than two years per violation, or both.

F. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

~~F.~~G. Continuation of an Expired General Permit

An expired general permit continues in force and effect until a new general permit is issued or the general permit is revoked or withdrawn.

~~G.~~H. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment and is in violation of this general permit.

~~H.~~I. Duty to Provide Information

The permittee shall furnish to MDE any information that may be requested to determine compliance with this general permit. The permittee shall also furnish to MDE, upon request, copies of records required to be kept by this general permit.

~~I.~~J. Other Information

When a permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in the NOI or in any other report to MDE, it shall promptly notify MDE of the facts or information.

~~J.~~K. Requiring an Individual Permit

1. MDE may require any agency to apply for and/or obtain an individual NPDES permit. When MDE requires a permittee to apply for an individual NPDES permit, MDE will provide notification in writing that an application is required. This notification shall include a brief statement of the reasons for the decision, an application form, and a deadline for filing the application. Applications must be submitted to MDE. MDE may grant additional time to submit an application upon request of the applicant.

2. Any agency eligible for coverage under this general permit may request to be excluded from the coverage of this general permit by applying for an individual permit. In such cases, the agency must submit an individual application in accordance with the requirements of 40 CFR 122.26(c)(1)(ii), with reasons supporting the request, to MDE.

3. When an individual NPDES permit is issued to an agency eligible for coverage under this general permit, the applicability of this general permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit. When an individual NPDES permit is denied to an agency otherwise subject to this general permit, then coverage under this general permit may be terminated by MDE.

~~K.~~L. Property Rights

The issuance of this general permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of federal, State, or local laws or regulations.

~~L.~~M. Severability

The provisions of this general permit are severable. If any provision of this general permit shall be held invalid for any reason, the remaining provisions shall remain in full force and effect. If the application of any provision of this general permit to any circumstances is held invalid, its application to other circumstances shall not be affected.

~~M.~~N. Permit Actions

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This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit

condition. The Environment Article, § 9-330, Annotated Code of Maryland, provides that the Department may revoke coverage under this permit if it finds that:

1. False or inaccurate information was contained in the application;

2. Conditions or requirements of the discharge permit have been or are about to be violated;

3. Substantial deviation from the requirements has occurred;

4. The Department has been refused entry to the premises for the purpose of inspecting to insure compliance with the conditions of the discharge permit;

5. A change in conditions exists that requires temporary or permanent reduction or elimination of the permitted discharge;

6. Any State or federal water quality stream standard or effluent standard has been or is threatened to be violated; or

7. Any other good cause exists for revoking the discharge permit.

~~N.~~O. Signature of Authorized Administrator and Jurisdiction

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All NOIs, annual reports, and information submitted to MDE shall be signed as required by COMAR 26.08.04.01-1 and 40 CFR 122.22. As in the case of municipal or other public facilities, signatories shall be a principal executive officer, ranking elected official, or other duly authorized employee.

~~O.~~P. Inspection and Entry

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The permittee shall allow representatives of MDE and EPA to enter the permittee's premises at reasonable times, to conduct an inspection of a regulated facility or activity, or to review records that must be kept as a condition of this permit.

~~P.~~Q. Proper Operations and Maintenance

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The permittee shall properly operate and maintain all facilities and controls which are used to achieve compliance with the conditions of this permit.

R. Reporting Requirements

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The permittee shall report any non-compliance which may endanger human health or the environment. Any information shall be provided orally within 24 hours from the time when the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the non-compliance and its cause; the period of non-compliance, including exact dates and times, and if the non-compliance has not been corrected, the anticipated time that it is expected to continue; and steps taken or planned to reduce, eliminate and prevent reoccurrence of the non-compliance.

PART VIII. REOPENER CLAUSE

If there is evidence indicating that the stormwater discharges authorized by this general permit cause, have the reasonable potential to cause or contribute to, a violation of a water quality standard, the permittee may be required to obtain an individual permit or the general permit may be modified to include specific limitations and/or requirements. Permit modification or revocation will be conducted according to 40 CFR 122.62, 122.63, 122.64, and 124.5.

PART IX. AUTHORITY TO ISSUE GENERAL NPDES PERMITS

In compliance with the provisions of the CWA, as amended (33 U.S.C. 1251 et. Seq. the Act), agencies that are defined in PART I.B.1 and 2 of this general permit and that submit an NOI in accordance with Part II of this general permit are authorized to discharge in accordance with the conditions and requirements set forth herein.

_____ _____

Jay G. Sakai, Director Date
Water Management Administration

Appendix A

Maryland Designation Criteria for Small Municipal Separate Storm Sewer Systems

Phase I of the U.S. Environmental Protection Agency's (EPA) stormwater program was promulgated in 1990 under the Clean Water Act (CWA). This program relies on National Pollutant Discharge Elimination System (NPDES) permit coverage to address polluted discharges from stormwater runoff from medium and large municipal separate storm sewer systems (MS4s) that serve populations of 100,000 or more. The Phase II program expands Phase I by requiring additional operators of "small" MS4s in urbanized areas to implement programs to control stormwater runoff through the use of an NPDES permit. A "small" MS4 can be a municipally-owned storm sewer system, but can also apply to State and federal agencies, and include transportation, universities, local sewer districts, hospitals, military bases, and prisons. This Appendix describes the designation criteria for regulating small MS4 municipalities and State and federal properties.

Small Municipal Systems Permit Area

Part 1.A of the Small Municipal Separate Storm Sewer System General Discharge Permits for municipalities and for State and federal properties specifies that small MS4s in the State of Maryland are regulated if located within the following geographical areas:

1. **Municipalities defined as "large" or "medium" MS4s under 40 CFR 122.26(b) that are permitted currently under an individual NPDES municipal stormwater permit.** The following jurisdictions in Maryland are regulated under individual Phase I MS4 permits:

   Anne Arundel County
   Baltimore City
   Baltimore County
   Carroll County
   Charles County
   State Highway Administration
   Frederick County
   Harford County
   Howard County
   Montgomery County
   Prince George's County

   Any small municipality with a population greater than 1,000 that is located within a regulated Phase I jurisdiction identified above must seek permit coverage. This affects over 50 small towns and cities which are included in Table 1, below. These municipalities may cooperate or request co-permittee status with their respective Phase I jurisdiction.

2. **Urbanized areas as determined by the latest Decennial Census by the Bureau of the Census**. Coverage is also required for all operators of small MS4s located within the boundaries of an "urbanized area" based on the latest decennial census. An urbanized area is a land area comprised of one or more central places and the adjacent densely settled surrounding area, which together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile. Based on these criteria, these jurisdictions include St. Mary's County, Washington County, Hagerstown, Smithsburg, Cecil County, and Elkton.

3. **Other areas designated by MDE.** MDE has developed a set of designation criteria for

small municipalities located outside of urbanized areas. Based on federal guidance, all jurisdictions with a population of at least 10,000 and a population density of at least 1,000 people per square mile must seek permit coverage. This will require coverage from the cities of Salisbury, Easton, Cambridge, and Cumberland.

Table 1 below provides a list of small MS4 municipalities in Maryland that meet the designation criteria described above.

Table 1. Small MS4 Municipalities Requiring Permit Coverage

County	Jurisdiction Name
AL	Cumberland*
AA	Annapolis
CL	Hampstead, Manchester, Mount Airy, New Windsor, Sykesville, Taneytown, Union Bridge, Westminster
CE	Cecil County, Elkton
CH	Indian Head, La Plata
DO	Cambridge*
FR	Brunswick, Emmitsburg, Frederick City, Middletown, Myersville, Thurmont, Walkersville, Woodsboro
HA	Aberdeen, Bel Air Havre de Grace
MO	Chevy Chase, Chevy Chase Village, Gaithersburg, Kensington, Poolesville, Rockville, Somerset, Takoma Park
PG	Berwyn Heights, Bladensburg, Bowie, Brentwood, Capital Heights, Cheverly, College Park, Colmar Manor, Cottage City, District Heights, Edmonston, Fairmount Heights, Forest Heights, Glenarden, Greenbelt, Hyattsville, Landover Hills, Laurel, Morningside, Mount Rainer, New Carrollton, Riverdale Park, Seat Pleasant, University Park
SM	St. Mary's County*
TA	Easton*
WA	Washington County, Hagerstown, Smithsburg
WI	Salisbury

* Indicates a municipality not currently regulated under the Phase II small MS4 program

State and Federal Permits

Part I.B of the State and Federal Small Municipal Separate Storm Sewer System Discharge Permit specifies that properties located within the permit area identified in Part I.A are considered eligible for permit coverage. The permit area, described above, includes those jurisdictions regulated under Phase I and Phase II. EPA allows some flexibility for how states determine which State and federal facilities require permit coverage for small MS4s. The Code of Federal Regulations (CFR) 122.26(b)(16)(iii) states that the term small MS4 means, "…systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospitals or prison complexes, and highways or other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings." Larger facilities logically have the greatest potential to generate pollutants and should be regulated. Therefore, Part I.B also specifies that State and federal facilities with systems

serving developed lands that are five acres or more as eligible for permit coverage.

In referencing the Federal Register (volume 76, no. 164), published on August 24, 2011, the Bureau of the Census developed criteria for defining urban areas. The definition for "Nonresidential Urban Territory," includes those areas with a "high degree of impervious surface and are within 0.25 miles of an urban area." However, some State and federal properties contain large tracts of pervious areas and natural forest with very limited development. Therefore, when determining State and federal facilities with developed lands greater than five acres, MDE has considered properties that have some level of impervious surface.

Using the Census Bureau's urban area criteria, regulated State and federal properties should have a "high degree of impervious area" and be located within or near urban areas. This will allow the focus of the NPDES program to concentrate on the most developed properties such as military bases, hospitals, prison complexes, and highways. MDE has the authority to require coverage for any property when it is determined that a facility will contribute significant pollutant loadings to a downstream storm drain system.

MDE has developed a potential list of State and federal agencies (Tables 2 and 3) that will be affected by the designation criteria for permit coverage described above. Because numerous State and federal agencies are responsible for multiple properties, MDE recommends that permittees utilize available options for filing joint applications and sharing responsibilities to most efficiently comply with permit requirements. The list in Tables 2 and 3 may not be complete, however, each State and federal agency is responsible to apply for coverage for any property that meets the criteria described above.

Summary

In accordance with the CWA, these designation criteria identify the small MS4 municipal, State, and federal properties that have the greatest likelihood of causing polluted discharge of stormwater runoff. Regulating these small MS4s under the NPDES program will allow implementation of stormwater programs to protect water quality. MDE will consider additional information from municipalities, State, or federal MS4 operators regarding eligibility of permit coverage. In evaluating eligibility for permit coverage, MDE will consider whether a system discharges to sensitive waters, high population areas, high growth areas, contiguity to other regulated systems, or is a significant contributor of pollutant loadings to a physically interconnected MS4 that is regulated by the NPDES program.

Table 2. Federal Agencies Potentially Eligible for Permit Coverage

#	Federal Agency	Property Name
1	Amtrak	Multiple Properties
2	Architect of the Capitol	Library of Congress at Fort Meade *
3	Army National Guard	Multiple properties
4	Army Reserves	Multiple Properities, including: 1SG Adam S Brandt Memorial (Curtis Bay),* Jachman USARC*, Jecelin USARC #1*, Prince George's County Memorial USARC*
5	Dept of Defense, Air Force	Andrews Air Force Base *
6	Dept of Defense, Army	Multiple Properties, including: Aberdeen Proving Grounds*, Fort Detrick*, Adelphi Lab*, Fort George G. Meade*, Washington Aqueduct*
7	Dept of Defense, Defense Logistics	Multiple Properties
8	Dept of Defense, Navy	Multiple Properties, including: Indian Head*, Bethesda*, Carderock*, Naval Academy*
9	Dept of Defense	National Security Agency (NSA) at Ft Meade *
10	Dept of Homeland Security	Multiple Properties, including: FLETC Cheltenham Training Center*
11	Dept of the Interior, National Park Service	Multiple Properties
12	Dept of Veterans Affairs (VA)	Multiple Properties (VA Hospitals)
13	General Services Administration	Multiple Properties
14	Smithsonian Institution	Multiple Properties
16	National Aeronautics and Space Administration (NASA)	Goddard Space Flight Center*
17	National Institutes of Health, NIH	Multiple Properties, including Bethesda Campus *
18	Dept of Commerce, National Institute of Standards & Technology (NIST)	Gaithersburg Campus *
19	Dept of Agriculture APHIS-PPQ	National Plant Germplasm & Biotechnology Lab *
20	U.S. Postal Service	William F. Bolger Center *
21	Dept of Agriculture	Multiple Properties including: Beltsville Agricultural Research Center *

* Indicates a federal facility or agency currently regulated under the Phase II small MS4 program

Table 3. State Agencies Potentially Eligible for Permit Coverage

#	State Agency	Property Name
1	MD Air National Guard	Multiple Properties*
2	MD Army National Guard	Multiple Properties*
3	MD Aviation Authority	BWI Airport
4	MD Dept of General Services	Multiple Properties, including: Ellicott City District Court*
5	MD Dept of Health and Mental Hygiene	Multiple Properties
6	MD Dept of Natural Resources	Multiple Properties
7	MD Dept of Public Safety & Correct Serv	Multiple Properties
8	MD Dept of Transportation, Aviation Admin	Martin State Airport*
9	MD Dept of Transportation, Motor Vehicle Admin	Glen Burnie*
10	MD Dept of Transportation, Motor Vehicle Admin	Multiple Properties* (other than Glen Burnie)
11	MD Dept of Transportation, Port Admin	Multiple Properties*
12	MD Dept of Transportation, Transit Admin	Multiple Properties*
13	MD Dept of Transportation, Transportation Auth	Multiple Properties*
14	MD Dept of Transportation, State Highway Admin	Multiple Properties*
15	MD Dept of Veterans Affairs	Multiple Properties*
16	MD Environmental Service	Multiple Properties
17	MD Food Center Authority	Multiple Properties
18	MD National Capital Parks & Planning (MNCPPC)	Montgomery* and Prince George's Parks
19	MD Stadium Authority	Camden Yards Complex*
20	University System of MD	Multiple Properties, including Towson University* and College Park*
21	Washington Metropolitan Area Transit (WMATA)	Multiple Metro Stations*
22	Washington Suburban Sanitary Commission (WSSC)	Multiple Properties*

* Indicates a State facility or agency currently regulated under the Phase II small MS4 program

Appendix B

Compliance with General Permit Requirements for Small Municipal Separate Storm Sewer Systems

INTRODUCTION

The Maryland Department of the Environment (MDE) has issued two general discharge permits for Small Municipal Separate Storm Sewer Systems (MS4s), one for small municipalities, and another for State and federal agencies. These two permits require that management programs be developed to effectively control the discharge of pollutants from stormwater runoff and improve water quality. These small MS4 general permits are issued in accordance with the Clean Water Act (CWA) and corresponding National Pollutant Discharge Elimination System (NPDES) regulations, 40 Code of Federal Regulations (CFR) 122.26. Each general permit establishes the minimum requirements for municipal and State and federal agencies eligible for coverage under the NPDES program. This Appendix provides guidance and additional information related to acceptable best management practice (BMP) implementation for compliance with permit requirements. The guidance is organized into three sections as follows:

Section 1: Describes management options for permit compliance;

Section 2: Describes acceptable BMPs and measureable goals to show compliance with the six minimum control measures; and

Section 3: Provides guidance for implementation of BMPs to comply with the twenty percent impervious area restoration requirement by the end of the permit term.

SECTION I. MANAGEMENT OPTIONS FOR PERMIT COMPLIANCE

According to 40 CFR 122.30, the U.S. Environmental Protection Agency (EPA) strongly encourages partnerships and the watershed approach as the management framework for efficiently, effectively, and consistently protecting water quality and restoring aquatic ecosystems. This regulation offers flexibility to regulated operators for determining the most appropriate stormwater controls. Therefore, when selecting BMPs and measurable goals to meet the conditions of this general permit, the following options should be incorporated into planning and implementation efforts. This will allow government entities and small municipalities to combine resources and collaborate with other NPDES programs to most effectively and efficiently achieve the water quality goals intended in the CWA.

A. Options for filing Notice of Intent (NOI) Application.

MDE will allow options for filing an NOI to receive permit coverage. This is consistent with 40 CFR 122.33, which allows an NOI application to be submitted for an individual facility or filed jointly with another municipality or government entity. If an NOI represents all storm sewers owned, operated, or maintained by a single entity, the application must specify how responsibilities will be shared across each property in order to demonstrate compliance with the minimum permit requirements.

B. Qualifying Local Programs (State or local).

An applicant may develop programs to comply with all minimum control measures independently, or rely on another responsible entity, or rely on a qualifying local program to comply with permit requirements. Maryland has existing State statutes and local ordinances in place that already require implementation of specific management measures that are more stringent than the conditions in this general permit. Therefore, the statewide regulatory requirements under the Environment Article, Title 4, Subtitle 1, Annotated Code of Maryland for erosion and sediment control and Title 4, Subtitle 2 for stormwater management, are considered to be "qualifying local programs." Compliance with these laws will meet the "Construction Site Stormwater Runoff Control" and "Post Construction Management" permit requirements. The permittee remains responsible for the implementation of these measures through compliance with Maryland's erosion and sediment control and stormwater management laws.

C. Sharing Responsibility.

A permittee may rely on another entity such as a State, federal, or local partner to satisfy one or more of the permit obligations. All permit obligations by each entity shall be noted in the NOI submitted to MDE according to PART II of this general permit and 40 CFR 122.35. Other responsible entities shall implement a control measure that is at least as stringent as the corresponding requirement found in this NPDES general permit. Additionally, the other entity shall agree to implement the minimum control measure on the permittee's behalf. However, the permittee remains responsible for all regulatory obligations. Therefore, MDE encourages the permittee to enter into a legally binding agreement with the entity to minimize any uncertainty about compliance with the permit.

SECTION II. COMPLIANCE WITH SIX MINIMUM CONTROL MEASURES

The minimum control measures described in 40 CFR 122.34 and outlined in Part IV of each general permit are composed of six elements, that when implemented together are expected to reduce pollutants discharged to receiving water bodies to the maximum extent practicable (MEP). These six minimum program elements described in the general permit are: Public Education and Outreach; Public Involvement and Participation; Illicit Discharge Detection and Elimination; Construction Site Runoff Control; Post Construction Stormwater Management; and Pollution Prevention and Good Housekeeping. The responsible entity must select and implement BMPs and measureable goals that comprehensively address each element. To demonstrate compliance with this requirement, the NOI form and periodic reports must contain the following information:

1. The BMPs that each permittee or other responsible entity will implement for each control measure.

2. Measureable goals for each BMP and a schedule for completion.

3. The responsible entity for implementing or coordinating the control measure.

This information shall be presented in a format consistent with Table 1 below. The NOI must specify the management programs and BMPs to be implemented over the permit term and must be approved

by MDE. Subsequent periodic reports (years two and four of the permit) will specify the status of BMP implementation and any changes made to timelines and management strategies identified in the NOI application. The format in Table 1 shall also be used for the periodic reports.

Table 1. BMP Reporting for Minimum Control Measures

Minimum Control Measures	BMPs Selected	Responsible Entity	Implement/ Completion Date	Measurable Goals
Public Education Outreach				
Public Involvement & Participation				
Illicit Discharge Detection & Elimination				
Construction Site Runoff Controls				
Post Construction Stormwater Management				
Pollution Prevention & Good Housekeeping				

The following provides a list of BMPs and corresponding measureable goals to show compliance with the six minimum control measures. These goals may be considered narrative standards to judge program effectiveness. An entity may also choose additional BMPs for MDE approval to satisfy these permit requirements. The NOI will include a plan for BMP implementation and measureable goals and timelines for implementation. Periodic reports will summarize the status of program implementation.

A. Public Education and Outreach.

BMPs: Develop educational materials, brochures, booklets, and training programs to educate the community and staff on the impacts of stormwater runoff, why controlling these discharges is important, and what the public can do to reduce pollutants in stormwater runoff. Measurable/quantitative standards to judge program effectiveness include the following measureable goals:

- The number of education materials developed describing the impacts of stormwater flows into surface waters for distribution to the public and staff.

- The number and type of training sessions offered to employees.
- The number of events sponsored with stormwater education displays.
- The number of people attending education and outreach events.
- The number of businesses receiving education materials on the storage and cleanup of hazardous chemicals.
- The number of homeowners receiving education materials on yard care practices to protect water quality.
- The number of staff receiving training on stormwater BMP maintenance.
- The number of staff receiving training for construction site erosion and sediment control.
- The number of staff trained in hazardous material storage, use, and disposal.
- The number of staff trained in proper fertilizer and pesticide application.
- The number of staff trained in illicit discharge inspections and spill control response.
- The number of site visitors to the permittee's webpage providing information related to stormwater pollution.
- The number of meetings held to educate citizens and developers about stormwater runoff and environmental site design (ESD) techniques.

~~At a minimum,~~ pPeriodic reports should provide a summary of the permittee's public education and outreach program and describe the information developed, the feedback received from the public and employees, and how the education program has facilitated efforts to reduce pollutants in stormwater runoff.

B. Public Involvement and Participation

BMPs: Recommended activities include an adopt-a-stream program, public surveys, community hotlines, storm drain stenciling, sponsoring Earth Day events and activities, stream clean ups, tree plantings, and monitoring programs. Comply with all State and federal public notice requirements. Create opportunities for public participation of the permittee's stormwater management program. Measurable/quantitative standards to judge program effectiveness of these activities include the following measureable goals:

- The number of participants in Earth Day and similar community events over the permit term.
- The quantity of trash and debris removed at clean up events.
- The total number of citizens surveyed and the number of surveys completed.
- The number of calls received by hotlines and the number of problems/incidents remedied.
- The number of volunteers attending agency sponsored events.
- The number of trees planted by volunteers.
- The number of storm drains stenciled.
- The cumulative number of miles of stream cleaned over the permit term.
- The number of volunteer training sessions held.
- Description of outreach efforts to local watershed organizations to solicit involvement and assistance in stormwater activities in their watershed.
- The number of site visitors to the permittee's webpage posting the latest annual report.

~~At a minimum,~~ pPeriodic reports should describe the permittee's public involvement programs and how participation has increased over the permit term. In addition, permittees shall

demonstrate how the increased public participation is used to enhance and facilitate stormwater program development.

C. Illicit Discharge Detection and Elimination

BMPs: Develop, implement, and maintain a program to identify and eliminate illicit storm drain system connections and non-stormwater discharges to the MEP. Develop standard operating procedures for investigating and eliminating illicit connections to the storm drain system. Develop a map of the storm drain system and update it annually (MDE will accept maps using geographical information system, (GIS), format if available). Measurable/quantative standards to judge program effectiveness of these activities include the following measureable goals:

- Provide employee training for storm drain inspections.
- The number of outfalls inspected annually.
- The number of outfalls with observed erosion problems.
- The number of outfalls repaired or stabilized.
- The number of regular maintenance inspections.
- The number of field tests conducted on suspected illicit discharges.
- The number of chemical tests completed.
- The number of tests exceeding minimum thresholds.
- The number of illicit connections reported by the public or staff.
- The number of illicit connections repaired or replaced.
- The number of penalties enforced for illegal dumping.
- The number of illicit connections and discharges eliminated over the permit term.

~~At a minimum, p~~Periodic reports should discuss the status of storm drain outfall mapping, inspections, protocols for field screening, the number of outfalls inspected, and the remedial actions taken. Progress in reducing the discharge of pollutants to the storm drain system shall be reported.

D. Construction Site Runoff Control

BMP: Compliance with State statute under the Environmental Article, Title 4, Subtitle 1, Annotated Code of Maryland pertaining to erosion and sediment control to control construction site runoff. Measurable/quantative standards to judge program effectiveness of these activities include the following measureable goals:

- The number of plans submitted to local Soil Conservation Districts or MDE for erosion and sediment control approval for projects disturbing greater than 5,000 square feet.
- The frequency of inspection and maintenance of BMPs during active construction.
- The number of enforcement actions taken.
- The number of personnel trained for construction site inspections.
- The number of sites reported to be in compliance.
- The number of sites reported to be non-compliant and remedial measures taken.
- The number of training certification programs offered for construction site inspectors.

~~At a minimum,~~ pPeriodic reports should demonstrate compliance with State erosion and sediment control regulations.

E. Post Construction Stormwater Management

BMP: Compliance with State statute under the Environmental Article, Title 4, Subtitle 2, Annotated Code of Maryland pertaining to stormwater management for new development and redevelopment construction projects. ~~At a minimum,~~ tThe number of new site plans that provide ESD to the MEP and an updated BMP inventory indicating adequate maintenance shall be provided. Measurable/quantative standards to judge program effectiveness of these activities include the following measureable goals:

- Number of plans submitted to local authorities or MDE for stormwater management approval for projects disturbing greater than 5,000 square feet.
- The frequency of inspection and maintenance for all stormwater BMPs.
- The number of personnel trained for inspection and maintenance.
- The number of BMPs reported to be in compliance.
- The number of BMPs reported to be non-compliant and remedial measures taken.
- The number of training certification programs offered for site inspectors.

~~At a minimum,~~ pPeriodic reports should demonstrate compliance with State stormwater management regulations.

F. Pollution Prevention and Good Housekeeping

BMPs: Activities include developing policies and employee training materials to prevent and reduce pollutant discharges to the storm drain system for facility operations such as waste water treatment, drinking water, fleet yard operations, maintenance garages, parks and recreation, street and infrastructure maintenance, and grounds maintenance. All facility operations shall be properly permitted under NPDES or other State or federal water pollution control programs where applicable. Measureable/quantative standards to judge program effectiveness of these activities include the following measureable goals:

- Complete inventory of pollutant sources located at each facility.
- Establish standard operating procedures for spill prevention and response.
- The number of persons trained in spill response.
- The frequency of inspection and maintenance activities for all chemical storage facilities.
- The number of employees trained in hazardous material handling and storage.
- Develop policies pertaining to nutrient management and integrated pest management plans.
- The number of employees trained in fertilizer, pesticide, and herbicide application.
- The number of employees trained in road salt application.
- The quantity of salt applied to roadways annually and over the permit term.
- The quantity of alternative deicing products used.
- The number of employees trained in pollution prevention techniques.
- The number of employees trained in inspection and maintenance of septic systems.

- Develop training programs designed to address the importance of water quality protection, the requirements of this permit, operation and maintenance standards to prevent impacts to water quality, and procedures for reporting concerns and potential illicit discharges.

~~At a minimum, p~~Periodic reports should summarize pollution prevention plans and policies for facility operators and describe how these management programs reduce the discharge of pollutants to the storm drain system.

As described in 40 CFR 122.34.(g).(2)., periodic reports are required in years two and four to detail progress with the six minimum control requirements. The status of BMP implementation, measureable goals, and a fiscal analysis shall be reported in a format consistent with Table 1 to demonstrate compliance with these requirements. In addition, a narrative describing the progress toward achieving identified measurable goals for each control measure; a summary of the stormwater activities the permittee plans to undertake during the next reporting cycle; and any needed changes to an identified BMP or measureable goal that apply to each of the minimum control measures shall be reported. Appendix C provides an annual report form that shall be submitted in conjunction with the required information.

SECTION III. COMPLIANCE WITH IMPERVIOUS AREA RESTORATION

Small MS4 operators covered under this NPDES general permit are required to complete impervious area restoration for twenty percent of existing developed lands with little or no stormwater management by the end of the permit term. This requirement supports the Maryland Watershed Implementation Plan (WIP) strategy for achieving nutrient and sediment load reductions on small MS4 properties to address Chesapeake Bay and local total maximum daily loads (TMDLs). Guidance for implementing restoration activities is available in the document, *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* (MDE, 2011). While MDE, 2011 should be referenced by all stormwater permittees, the discussion below highlights the most relevant information from that document relevant to small MS4 operators. This provides a clear outline for compliance with impervious area restoration for small MS4s.

A. Establishing Baselines: Impervious Surface Area Assessment

Permittees will need to determine the total impervious surface area under their responsibility and delineate the portions that are treated with acceptable water quality BMPs to the maximum extent practicable (MEP). This analysis will provide the baseline used to calculate the twenty percent restoration requirement. The following information is needed for this assessment:

1. **Small MS4 Permit Area:** Determine total impervious area owned, operated, or under the jurisdiction of the permittee. Properties or land areas that are not subject to the designation criteria specified in Appendix A may be excluded. MDE recommends collaborating with large or medium MS4 jurisdictions to assist with this analysis.

2. **Land Use and Impervious Surface Area Analysis:** The total impervious surface within a jurisdiction's regulated permit area should be evaluated using the best available land use data that can be generated from the same source from year to year. The baseline year for the impervious area assessment shall be 2002, which is the year that the 2000 Maryland Stormwater Design Manual (Manual) was fully implemented.

BMPs designed in compliance with the water quality volume (WQ_v) treatment criteria found in the Manual are considered to provide water quality treatment to the MEP. Therefore, the impervious area draining to BMPs designed and approved in accordance with the Manual does not need to be counted toward impervious area restoration requirements.

3. **Urban BMPs:** All municipalities and State and federal agencies are required to develop and maintain an urban BMP database in accordance with Table 4. The database identifies all existing stormwater facilities within each jurisdiction along with design, construction, and inspection information. This database and field inspections shall be used to verify the level of water quality treatment provided for an existing facility. The following guidelines can be used to determine the level of water quality treatment provided by existing stormwater facilities:

- BMPs constructed according to the Manual for new development after the baseline year of 2002 provide acceptable water quality treatment. The impervious areas draining to these facilities do not need to be counted toward impervious area restoration.
- BMPs implemented for new development after 2002 may not be used for credit toward impervious area restoration.
- Some BMPs implemented prior to 2002 may provide some water quality treatment. These include wet ponds, wetlands, and infiltration facilities. In these cases, the original design parameters for each facility are needed to verify the level of treatment provided. The impervious area treated is based on the volume provided in relation to the WQ_v (i.e., runoff from 1 inch of rainfall). For example, if a BMP was designed to treat a half inch of rainfall, the amount of impervious area treated is 50% of the actual impervious area draining to the facility.
- Stormwater detention facilities designed for flood control do not provide water quality treatment. The impervious area draining to these BMPs must count toward the baseline.
- BMPs where plans, design specifications, and complete maintenance records are not available are not considered to provide acceptable water quality treatment. Impervious areas draining to these structures must count toward the baseline.
- The impervious area treated by BMPs implemented for retrofitting or redevelopment between 2002 and 2006 may be subtracted from the baseline number.

A useful tool for an initial assessment is the Stormwater Management by Era approach documented by MDE in 2009. The approach considers four distinct regulatory eras where stormwater management requirements correlate with a certain level of BMP performance. These eras are as follows:

- Prior to 1985. Stormwater management regulations came into effect after this era. Any development constructed in this time period is most likely untreated (unless retrofits were constructed in later years).
- Between 1985 and 2002. BMPs implemented during this time addressed flood control; however, individual BMP design criteria shall be used to verify whether water quality is provided.

- Between 2002 and 2010. The Manual was fully implemented during this era.
- Post-2010. Environmental site design (ESD) to the MEP is required. Any development project that complied with State regulations in the third and fourth eras is considered to have acceptable water quality treatment.

This approach was used in the development of Maryland's WIP for meeting Chesapeake Bay TMDLs. It can be used for identifying BMPs that may provide water quality so that the treated impervious areas may be deducted from the baseline assessment. The stormwater management by era approach can also be valuable for long term planning and for targeting potential areas suitable for retrofitting.

4. **Impervious Surfaces in Rural Areas:** Many rural roads and residential subdivisions have open vegetated drainage systems, impervious area disconnections, and sheetflow to conservation areas that filter and infiltrate stormwater runoff. Each jurisdiction should conduct a systematic review of existing rural areas to determine the extent of water quality treatment already provided. This review will also aid in identifying opportunities for retrofitting.

   Land use designation can help in selecting areas that may already be adequately managed. For example, public roads and residential subdivisions in predominantly rural areas with low population densities (e.g., one or less dwelling unit per three acres) may have water quality design features equivalent to those defined in the Manual. Typically, areas that are less than fifteen percent impervious can meet ESD requirements according to the criteria for nonstructural practices in the Manual. These practices include rooftop disconnect, non-rooftop disconnect, and sheetflow to conservation areas. If a jurisdiction can document where conditions meet the Manual's criteria and adequate management is provided, then the impervious acres in these areas can be excluded from the baseline.

5. **Total Impervious Acres Not Treated to the MEP:** Subtract total impervious areas draining to water quality BMPs and nonstructural practices (determined in steps 3 and 4 above) from the total impervious land area owned or operated by the jurisdiction as of 2002 (step 2). Restoration requirements will apply to twenty percent of the remaining untreated land area.

B. Impervious Area Restoration Criteria

The water quality objective for impervious area restoration is based on treating the WQ_v (1 inch of rainfall) using BMPs defined in the Manual. Because of numerous constraints inherent in the urban environment, meeting the design standards specified in the Manual may not always be achievable. In these cases, retrofit opportunities that achieve less than the WQ_v should be pursued where they make sense. Applying impervious area treatment credit for these projects will be based on the proportion of the full WQ_v treated.

Where stormwater retrofits provide water quality treatment for existing unmanaged urban areas, impervious area restoration credit can be applied according to the following criteria:

- An acre for acre impervious credit will be given when a BMP is designed to provide treatment for the full WQ_v (1 inch of rainfall); or
- A proportional acreage of credit will be given when less than the WQ_v is provided: (percent of the WQ_v achieved) x (drainage area impervious acres).

C. Acceptable Restoration Strategies

The following provides acceptable restoration strategies for receiving impervious area restoration credit. In addition, permittees may submit alternative actions that are not discussed below to comply with impervious area restoration requirements, subject to MDE approval.

1. **New Retrofit BMPs**: This includes new stormwater BMPs installed to provide water quality treatment for existing developed lands with no controls. Acceptable water quality BMPs and design criteria are provided in the Manual. When a BMP from this list is used and the full WQ_v is provided, the total impervious surface within the drainage area may be credited toward restoration.

2. **Existing BMP Retrofits**: These are existing BMPs that were not originally designed to provide water quality treatment (e.g., detention pond). As discussed previously, the impervious area draining to these BMPs may not be counted as treated. However, when retrofitted to an acceptable water quality BMP, such as converting a dry pond to a wetland, or providing additional WQ_v storage; the impervious acres draining to the BMP may be credited as restored.

3. **BMP Enhancement and Restoration:** Routine inspection and maintenance is essential to ensure optimal water quality treatment of any BMP. When BMP maintenance has not been performed, substantial structural problems will occur over time and this will undermine any water quality benefit intended from the practice. Therefore, as discussed above, when BMPs are not properly maintained, they cannot be considered to provide effective treatment for impervious surfaces. In these cases, if credit was originally taken for water quality treatment, then future annual reports should remove that credit until the facility is restored.

MDE has published guidance for inspection and maintenance in the *Maryland Stormwater Management Guidelines for State and Federal Projects* (MDE, 2010). These guidelines offer maintenance schedules for each BMP and specified time periods for inspection and corrective action. In addition, the Natural Resources Conservation Service of Maryland has published *Pond Code 378*, which includes an inspection check list for ponds. Code 378 identifies areas that will cause significant problems if left unaddressed. When inspections and repairs are performed according to these guidelines (or others required by local review authorities), then the facility is considered properly maintained.

When a BMP has failed and significant structural problems exist, the BMP must be restored to receive proper restoration credit. Restoring a failed BMP should include providing the full WQ_v, increasing storage capacity, increasing the flow path by installing berms or other design enhancements, re-planting with desirable wetland and native vegetation, or significant sediment clean outs. This is intended to ensure that

BMPs are functioning as designed and that routine maintenance is addressed through the life of the BMP in order for the permittee to keep the credit.

4. **Alternative Stormwater BMPs**: The MDE, 2011 guidance document outlines several alternative BMPs that may be used for the purpose of impervious area restoration. These alternative BMPs include street sweeping, buffer planting, reforestation, stream restoration, shoreline stabilization, and others. A complete list of these alternative BMPs is provided in Table 5, below.

   Impervious acres treated shall be reported according to the "impervious acre equivalent" identified on Table 5 for each alternative practice. As an example, where stream restoration is proposed, the "impervious acre equivalent" is equal to 0.01 acre per linear foot. This means that when 1,000 linear feet of stream is restored, then 10 acres of credit may be granted toward impervious area restoration.

5. **Redevelopment**: Maryland's stormwater management regulations for redeveloped lands are intended to gain water quality treatment on existing developed lands while supporting initiatives to improve urban areas. Therefore, when water quality treatment practices are provided to address State redevelopment regulations, the existing impervious area treated may be credited toward restoration requirements. In most cases the credit will be equivalent to 50% of the existing impervious area for the project. When additional volume above the regulatory requirements is provided, additional credit will be accepted on a proportional basis as described in Section III.A above.

6. **Establishing Partnerships and Master Planning**: As discussed above, redevelopment activities can be credited toward restoration requirements. This presents an opportunity to develop future growth master plans to provide water quality treatment beyond regulatory requirements. This can be a cost effective solution for addressing Maryland's stormwater management regulations while incorporating impervious area restoration initiatives into long-range planning efforts.

   Small MS4 municipalities may work with private developers and offer incentives in order to gain additional water quality treatment for a project. MDE encourages localities to actively engage the development community through the stormwater plan review and approval process. There are numerous examples where some of the larger MS4 jurisdictions have successfully partnered with private developers for this purpose.

   In addition to partnerships with the private sector, small municipalities and government entities have the opportunity to collaborate with other watershed groups, and State, federal, or local entities to combine resources and facilitate implementation of restoration activities. As discussed in Section I of this document, this could be a formal agreement with another entity and outlined in the NOI application, or this may be a partnership established for an individual project. Because the intent of the small MS4 general permit is to encourage partnerships to achieve the water quality goals of the CWA, MDE will remain flexible when any permittee pursues this option.

D. Developing a Work Plan

The NOI submittal requires a work plan that shows how each permittee intends to complete twenty percent impervious area restoration by the end of the permit term. A suggested work plan is provided in Table 2 below. A permittee may use this suggested work plan in the NOI application or provide a modified plan for MDE approval. It is expected that the work plan will be adjusted and refined over the course of the permit term. After approval of the initial NOI application, permittees must report annually their progress toward implementing the work plan. This shall include a narrative that describes any adjustments to schedules and management strategies needed to keep restoration schedules on target.

Table 2. NOI Application: Impervious Area Restoration Work Plan

Timeline	Management Strategies and Goals
Year 1	Inventory total impervious area for all land area covered by this general permit. Inventory all existing water quality stormwater BMPs. Complete impervious area assessment and determine twenty percent restoration requirements. Assess opportunities and timelines for implementing water quality BMPs. Assess opportunities to develop partnerships with other NPDES permittees. Develop preliminary Restoration Activity Schedule (see Table 3).
Year 2	Submit complete Urban BMP database and verify that as-built design plans have been accepted by MDE or local approving authority. Update and submit maintenance and inspection records for all BMPs. Develop local or institutional watershed assessments and identify water quality problems and solutions for restoration. Begin implementation of restoration projects. Report progress on Restoration Activity Schedule and develop adaptive management strategies for BMP implementation to meet restoration goals. Incorporate future growth agency-wide/jurisdication-wide master plans into restoration planning efforts.
Year 3	Continue BMP implementation and update Restoration Activity Schedule. Update Urban BMP database and document maintenance and inspection status. Submit as-built drawings to MDE or local approving authority for all BMPs. Evaluate lessons learned from BMP implementation and determine opportunities for improved processes and procedures. Continue to identify opportunities for water quality improvement projects and collaborative partnerships to meet restoration requirements.
Year 4	Obtain “As-Built Acceptance” letters from MDE or local approving authority. Update Urban BMP database and include status of maintenance and inspection activities. Update Restoration Activity Schedule. Submit narrative showing progress toward implementing restoration projects. Describe additional activities needed and schedule for achieving twenty percent impervious area restoration by the end of the permit term.

E. Reporting

As restoration projects are implemented, permittees will need to track and report progress annually toward meeting permit requirements. This requires updating the Restoration Activity Schedule (Table 3) and the Urban BMP database (Table 4) according to the data tables outlined below. Table 3 will track the progress of planning, construction, and final implementation of individual restoration projects throughout the course of the permit term. Table 4 allows for tracking and reporting existing, new, redevelopment, and restoration BMPs and should be submitted in electronic format. Table 5 should be referenced when determining impervious acre credits for alternative BMPs.

The Restoration Activity Schedule (Table 3) will be used as a compliance measure to demonstrate and verify progress toward meeting restoration requirements. A brief narrative shall accompany Table B.3 and address the following elements:

1. Describe the analysis and methods used to quantify the impervious area baseline. This shall include a tabulation of impervious area owned or operated and served by BMPs within the small MS4 as follows:

    - Total impervious area;
    - Total impervious area served by water quality BMPs;
    - Total impervious area served by BMPs providing partial WQ_v;
    - Impervious areas treated by nonstructural practices, including:
        - Rooftop disconnections;
        - Nonrooftop disconnections;
        - Vegetated swales;
        - Sheetflow to vegetated areas;
    - Determine total impervious area not treated; and
    - Calculate the twenty percent impervious area requirement.

2. Describe progress of planned restoration activities and determine any necessary adaptive management strategies needed to meet restoration targets.

An example of how to submit the information required in Table 3 is provided below. The example uses various BMPs and provides an implementation schedule for the duration of the permit. In this example, the impervious acre baseline is 100 acres and noted in year 1. With the implementation of each BMP, the balance toward achieving the goal is recalculated as indicated in the "Impervious Acre Restoration Goal and Balance" column. It is not expected that restoration projects will be completed the first year. However, the first year should provide a general plan, timelines, and anticipated costs. This plan will be continuously refined and updated over the duration of the permit term.

Table 3. Restoration Activity Schedule (Example)

Agency Name and Location of Property:								
Reporting Year	**Project**	**BMP Code**	**Cost ($K)**	**Imperv Acres Treated[1]**	**Imperv Acre Goal and Balance**	**Project Status[2]**	**MD Grid Coordinates**	
Year 1					100			
Year 2	Dry pond retrofit to wet	PWET	1,500	36	64	UC		
Year 3	Bioretention	FBIO	260	6	58	P		
	Bioswale	MSWB	100	2	56	P		
	Dry pond retrofit to wet	PWET	800	10	46	P		
Year 4	Existing BMP enhancement	PWET	500	8	38	P		
	Redevelopment	REDE	300	5	33	P		
	Rain Gardens (4)	MRNG	20	2	31	P		
	Disconn rooftop r/o	NDRR	200	10	21	P		
Year 5	Stream restoration (1,000 linear feet)	STRE	500	10	11	P		
	Outfall Stabilization	OUT	200	2	9	P		
	Shallow marsh	WSHW	150	4	5	P		
	Reforestation on Imperv (3 acres)	IMPF	100	3	2	P		
	Green Roof, extensive (0.5 acres)	AGRE	100	0.5	1.5	P		
	Permeable pavement on existing parking	APRP	150	2	-0.5	P		

[1] Impervious acres treated are based on the total impervious acres in the drainage when 1 inch of rainfall is treated. A proportional credit is granted for projects treating less than 1 inch.
[2] Project Status: Enter P for planning and design, UC for under construction, and C for complete.

The Urban BMP database will be used as a compliance measure to demonstrate and verify progress toward meeting restoration goals. A brief narrative shall accompany Table 4 and address the following elements:

1. Discuss progress made in updating and reporting existing BMPs that have not been previously reported and entered into the Chesapeake Bay Model.

2. Document retrofit or redevelopment projects that have been implemented since 2006, but were not previously reported. When the impervious area baseline analysis considers the drainage areas to these practices as untreated, then these projects may be credited toward impervious area restoration requirements and noted under year 1 of Table 3.

3. Document that the purpose of any new BMP implemented was for new development, redevelopment, or restoration.

4. Verify the design criteria (e.g., P_E or WQ_v treated) for any BMP. Restoration requires implementation of water quality practices to treat 1 inch of rainfall. When the rainfall treated is less than 1 inch, then a proportional credit will be granted for impervious acres treated based on the percentage of 1 inch of rainfall treated.

5. Verify that routine inspection and maintenance activities are up to date and current so that credit for all BMPs is properly applied. As discussed previously, if BMPs are not properly maintained, then any credit previously applied should be removed. Therefore, the Urban BMP database needs to show that routine maintenance is addressed through the life of the BMP in order for the permittee to keep the credit.

Table 4. Urban BMP Database and Codes

The BMP database will tabulate a list of all BMPs within a jurisdiction. However, the ESD to the MEP mandate will require numerous ESD practices to be installed throughout a site in order to meet stormwater requirements. In these cases, local jurisdictions may enter the system of ESD practices by specifying the number and type of BMPs used to meet the target rainfall requirements (PE_REQ). This data may be entered in the NUM_BMPS and ESD_MEP fields shown below.

Column Name	Data Type	Size	Description
YEAR	NUMBER	4	Annual report year
MDE_STRU_ID	TEXT	8	Unique structure ID[1]
MD_NORTH	NUMBER	8	Maryland grid coordinate (NAD 83 meters) Northing
MD_EAST	NUMBER	8	Maryland grid coordinate (NAD 83 meters) Easting
WATERSHED8DGT	NUMBER	20	Maryland 8-digit hydrologic unit code
WATERSHED12DGT	NUMBER	20	USGS 12-digit hydrologic unit code
STRU_NAME	TEXT	60	Name of structure
BMP_CLASS	TEXT	1	BMP classification category (see list of BMPs: E, S, or A)
BMP_TYPE	TEXT	4	Type of BMP structure (see list of BMPs: enter code) [2]
NUM_BMPS	NUMBER	4	Number of all BMPs used to meet PE_REQ
ESD_MEP	TEXT	75	Type of all BMPs used to meet PE_REQ
LAND_USE	NUMBER	3	Predominant land use[3]
PERMIT_NO	TEXT	10	Unique permit number
ADDRESS	TEXT	50	Structure address
CITY	TEXT	15	Structure address
STATE	TEXT	2	Structure address
ZIP	NUMBER	10	Structure address
ON_OFF_SITE	TEXT	3	On or offsite structure
CON_PURPOSE	TEXT	4	New development (NEWD), Redevelopment (REDE), or Restoration (REST)
DRAIN_AREA	NUMBER	8	Structure drainage area (acres)[4]
IMP_ACRES	NUMBER	8	Structure impervious drainage area (acres)[4]
TOT_DRAIN	NUMBER	8	Total site area (acres)
PE_REQ	NUMBER	4	P_E required[5]
PE_ADR	NUMBER	4	P_E addressed[6]
IMP_ACRES_REST	NUMBER	4	Equals IMP_ACRES when PE_ADR = 1 inch (for restoration only)
RCN_PRE	NUMBER	2	Runoff curve number (weighted)[7]
RCN_POST	NUMBER	2	Runoff curve number (weighted)[7]
RCN_WOODS	NUMBER	2	Runoff curve number (weighted)[7]
APPR_DATE	DATE/TIME	8	Permit approval date
BUILT_DATE	DATE/TIME	8	As Built completion date
GEN_COMNT	TEXT	60	General comments
ADDITIONAL DATA REQUIREMENTS FOR ALL ALTERNATIVE BMPS			
PROJECT_LENGTH	NUMBER	6	For stream restoration, shoreline stabilization, or outfall stab in feet
ACRES_SWEPT	NUMBER	6	Acres swept for street sweeping
TIMES_SWEPT	NUMBER	6	Number of times per year area is swept
ACRES_PLANTED	NUMBER	6	Acres of trees planted on urban impervious (IMPF)
ACRES_PLANTED	NUMBER	6	Acres of trees planted on pervious (FPU)
IMPERV_ACR_REM	NUMBER	6	Impervious acres removed to pervious land (IMPP)

EQ_IMP_ACRES	NUMBER	6	Equivalent impervious acres treated by alternative BMP (see Table 5)
INSPECTION/MAINTENANCE DATA REQUIRED FOR ALL NEW, REDEVELOPMENT, RETROFIT, AND ALTERNATIVE BMPS			
BMP_STATUS	TEXT	4	Pass/Fail
LAST_INSP_DATE	DATE/TIME	8	Last inspection date
MAIN_DATE	DATE	8	Last date maintenance was performed
REINSP_STATUS	DATE/TIME	4	Pass/Fail
REINSP_DATA	DATE/TIME	4	Reporting Year
REPORTING YEAR	TEXT	8	Date last change made to this record
GEN_COMNT	TEXT	60	General comments

MDE Approved BMP Classifications

ESD BMPs		
Category	Code	Code Description
Alternative Surfaces (A)		
E	AGRE	Green Roof – Extensive
E	AGRI	Green Roof – Intensive
E	APRP	Permeable Pavements
E	ARTF	Reinforced Turf
Nonstructural Techniques (N)		
E	NDRR	Disconnection of Rooftop Runoff
E	NDNR	Disconnection of Non-Rooftop Runoff
E	NSCA	Sheetflow to Conservation Areas
Micro-Scale Practices (M)		
E	MRWH	Rainwater Harvesting
E	MSGW	Submerged Gravel Wetlands
E	MILS	Landscape Infiltration
E	MIBR	Infiltration Berms
E	MIDW	Dry Wells
E	MMBR	Micro-Bioretention
E	MRNG	Rain Gardens
E	MSWG	Grass Swale
E	MSWW	Wet Swale
E	MSWB	Bio-Swale
E	MENF	Enhanced Filters
Structural BMPs		
Ponds (P)		
S	PWED	Extended Detention Structure, Wet
S	PWET	Retention Pond (Wet Pond)
S	PMPS	Multiple Pond System
S	PPKT	Pocket Pond
S	PMED	Micropool Extended Detention Pond
Wetlands (W)		
S	WSHW	Shallow Marsh
S	WEDW	ED – Wetland
S	WPWS	Wet Pond – Wetland
S	WPKT	Pocket Wetland
Infiltration (I)		
S	IBAS	Infiltration Basin
S	ITRN	Infiltration Trench
Filtering Systems (F)		
S	FBIO	Bioretention
S	FSND	Sand Filter

S	FUND	Underground Filter
S	FPER	Perimeter (Sand) Filter
S	FORG	Organic Filter (Peat Filter)
S	FBIO	Bioretention
Open Channels (O)		
S	ODSW	Dry Swale
S	OWSW	Wet Swale
Other Practices (X)		
S	XDPD	Detention Structure (Dry Pond)
S	XDED	Extended Detention Structure, Dry
S	XFLD	Flood Management Area
S	XOGS	Oil Grit Separator
S	XOTH	Other

MDE Approved Alternative BMP Classifications

Alt. BMPs (A)	Code	Code Description
A	MSS	Mechanical Street Sweeping
A	VSS	Regenerative/Vacuum Street Sweeping
A	IMPP	Impervious Surface Elimination (to pervious)
A	IMPF	Impervious Surface Elimination (to forest)
A	FPU	Planting Trees or Forestation on Pervious Urban
A	CBC	Catch Basin Cleaning
A	SDV	Storm Drain Vacuuming
A	STRE	Stream Restoration
A	OUT	Outfall Stabilization
A	SPSC	Regenerative Step Pool Storm Conveyance
A	SHST	Shoreline Management
A	SEPP	Septic Pumping
A	SEPD	Septic Denitrification
A	SEPC	Septic Connections to WWTP

Notes:

1. Use unique structure identification codes listed below
2. For ESD to MEP, enter the most predominant BMP type
3. Use Maryland Office of Planning (MDP) land use codes listed below
4. GIS shapefile optional
5. Rainfall target (from Table 5.3, Design Manual pp.5.21-22) used to determine ESD goals and size practices (for new development or redevelopment). If practice is for restoration, then PE_REQ is 1inch.
6. Rainfall addressed (using both ESD techniques and practices, and structural practices) by the BMPs within the drainage area
7. Optional - information should be submitted if available

Unique Structure Identification Codes: Each stormwater best management structure or water quality improvement project will need a unique identification code. For management of these data statewide it is necessary that these codes also indicate the jurisdiction where they are implemented. Please use the County, City, or State abbreviations listed below as part of each structure's unique identification code.

Jurisdiction	Code
Anne Arundel County	AA
Baltimore City	BC
Baltimore County	BA
Carroll County	CA
Charles County	CH
Frederick County	FR
Harford County	HA
Howard County	HO
Prince George's County	PG
Montgomery County	MO
Maryland State Highway Administration	SHA

MDP Land Use/Land Cover

10 Urban Built-up

- **11 Low Density Residential** – Detached single family/duplex dwelling units, yards, and associated areas. Areas of more than 90 percent single family/duplex dwelling units, with lot sizes less than five acres but at least one-half acres (0.2 dwelling units/acre to 2 dwelling units/acre).

- **12 Medium Density Residential** – Detached single family/duplex, attached single unit row housing, yards, and associated areas. Areas of more than 90 percent single family/duplex units and attached single unit row housing, with lot sizes of less than one-half acre but at least one-eighth acre (2 dwelling units/acre to 8 dwelling units/acre).

- **13 High Density Residential** – Attached single unit row housing, garden apartments, high rise apartments/condominiums, mobile home and trailer parks. Areas of more than 90 percent high density residential units, with more than 8 dwelling units/acre.

- **14 Commercial** – Retail and wholesale services. Areas used primarily for the sale of products and services, including associated yards and parking areas.

- **15 Industrial** – Manufacturing and industrial parks, including associated warehouses, storage yards, research laboratories, and parking areas.

- **16 Institutional** – Elementary and secondary schools, middle schools, junior and senior high schools, public and private colleges and universities, military installations (built-up areas only, including buildings and storage, training, and similar areas) churches and health facilities, correctional facilities, and government offices and facilities that are clearly separable from the surrounding land cover.

- **17 Extractive** – Surface mining operations, including sand and gravel pits, quarries, coal surface mines, and deep coal mines. Status of activity (active vs. abandoned) is not distinguished.

- **18 Open Urban Land** – Urban areas whose use does not require structures, or urban areas where non-conforming uses characterized by open land have become isolated. Included are golf courses, parks, recreation areas (except associated with schools or other institutions), cemeteries, and entrapped agricultural and undeveloped land within urban areas.

- **191 Large Lot Subdivision (Agriculture)** – Residential subdivisions with lot sizes less than 20 acres but at least 5 acres, with a dominant land cover of open fields or pasture.

- **192 Large Lot Subdivision (Forest)** - Residential subdivisions with lot sizes less than 20 acres but at least 5 acres, with a dominant land cover of deciduous, evergreen or mixed forest.

20 Agriculture

- **21 Cropland** – Field and forage crops.

- **22 Pasture** – Land used for pasture, both permanent and rotated: grass.

- **23 Orchards/Vineyards/Horticulture** – Areas of intensively managed commercial bush and tree crops, including areas used for fruit production, vineyards, sod and seed farms, nurseries, and green houses.

- **24 Feeding Operations** – Cattle or hog feeding lots, poultry houses, and holding lots for animals, and commercial fishing areas (including oyster beds).

- **241 Feeding Operations** – Cattle or hog feeding lots, poultry houses, and holding lots for animals.

- **242 Agricultural Building** – Breeding and training facilities, storage facilities, built-up areas associated with a farmstead, small farm ponds, and commercial fishing areas.

- **25 Row and Garden Crops** – Intensively managed track and vegetable farms and associated areas.

40 Forest

- **41 Deciduous Forest** – Forested areas in which the trees characteristically lose their leaves at the end of the growing season. Included are such species as oak, hickory, aspen, sycamore, birch, yellow poplar, elm, maple, and cypress.

- **42 Evergreen Forest** - Forested areas in which the trees are characterized by persistent foliage throughout the year. Included are such species as white pine, pond pine, hemlock, southern white cedar, and red pine.

- **43 Mixed Forest** – Forested areas in which neither deciduous or evergreen species dominate, but in which there is a combination of both types.

- **44 Brush** – Areas that do not produce timber or other wood products but may have cut-over timber stands, abandoned agriculture fields, or pasture. These areas are characterized by vegetation types such as sumac, vines, rose, brambles, and tree seedlings.

50 Water – Rivers, waterways, reservoirs, ponds, bays, estuaries, and ocean.

60 Wetlands – Forested and non-forested wetlands, including tidal flats, tidal and non-tidal marshes, and upland swamps and wet areas.

70 Barren Land

- **71 Beaches** – Extensive shoreline areas of sand and gravel accumulation, with no vegetative cover or other land use.

- **72 Bare Exposed Rock** – Areas of bedrock exposure, scarps, and other natural accumulations of rock without vegetative cover.

- **73 Bare Ground** – Areas of exposed ground caused naturally, by construction, or other cultural processes.

Table 5. Alternative Urban BMPs and Impervious Acre Credit[1]

Alternative BMP	Notes	Impervious Acre Equivalent
Mechanical Street Sweeping	Acres swept multiplied by 0.07 = credit	0.07
Regen/Vacuum Street Sweeping	Acres swept multiplied by 0.13 = credit	0.13
Reforestation on Pervious Urban	Acres of reforested land multiplied by 0.38 = credit	0.38
Impervious Urban to Pervious	Acres of reforested land multiplied by 0.75 = credit	0.75
Impervious Urban to Forest	Acres of reforested land multiplied by 1.00 = credit	1.00
Regenerative Step Pool Storm Conveyance (SPSC)[2]	Located in dry or ephemeral channels; Credit is based on rainfall depth treated	Varies[2]
Catch Basin Cleaning	Tons of dry material collected multiplied by 0.40 = credit	0.40
Storm Drain Vacuuming	Tons of dry material collected multiplied by 0.40 = credit	0.40
Mechanical Street Sweeping	Tons of dry material collected multiplied by 0.40 = credit	0.40
Regen/Vacuum Street Sweeping	Tons of dry material collected multiplied by 0.40 = credit	0.40
Stream Restoration	Linear feet of stream restored multiplied by 0.01 = credit	0.01
Outfall Stabilization	Linear feet of outfall stabilized multiplied by 0.01 = credit; max credit is 2 acres per project	0.01
Shoreline Management	Linear feet of shoreline restored multiplied by 0.04 = credit	0.04
Septic Pumping	Units pumped (annually) multiplied by 0.03 = credit	0.03
Septic Denitrification	Units upgraded (w/denitrification) multiplied by 0.26 = credit	0.26
Septic Connections to WWTP	Units connected to a WWTP multiplied by 0.39 = credit	0.39

1. For more information on alternative BMPs, see Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated, Guidance for National Pollutant Discharge Elimination System Stormwater Permits, June, 2011.
2. Full impervious area credit is granted when practice treats 1 inch of rainfall. If the full WQ_v is not provided, then the impervious area credit is based on the percentage of 1 inch that is treated. Described in Section III.B.

Appendix C

NOI and Annual Report Forms

NOTICE OF INTENT

National Pollutant Discharge Elimination System (NPDES)
General Permit for Discharges from Small Municipal Separate Storm Sewer Systems

This Notice of Intent (NOI) form is intended for those State and federal agencies requiring coverage under the General Discharge Permit (No. 13-SF-5501) for Small Municipal Separate Storm Sewer Systems (MS4s). Submitting this application constitutes notice that the entity identified below agrees to comply with all terms and conditions of the general permit. This NOI form and all required information shall be submitted to:

Maryland Department of the Environment, Water Management Administration
Sediment, Stormwater and Dam Safety Program
1800 Washington Boulevard, Baltimore, MD 21230-1708
Phone: 410-537-3543 FAX: 410-537-3553
Web Site: www.mde.maryland.gov

1. Contact Information

Agency Name: _____ Contact Person(s): _____

Mailing Address: _____

Phone Number: _____ FAX Number: _____

Email Address: _____

2. Reporting Requirements

Part II. of the General Permit No. 13-SF-5501 specifies the information that needs to be submitted to Maryland Department of the Environment (MDE). This includes the BMPs to be used, measurable goals, and a schedule for implementing BMPs to comply with all permit requirements. Agencies seeking coverage under this general permit shall report the personnel responsible for implementing each measure and a fiscal analysis for obtaining compliance. The information outlined in the NOI Attachment shall be included. Details regarding the minimum control measures shall be submitted according to Table 1. A work plan that outlines specific actions to be taken to address impervious area restoration requirements shall also be submitted. A suggested work plan is provided in Table 2, however, permittees may develop an alternate plan for MDE approval.

3. Signature of Contact Person

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this NOI and all attachments. I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

_____ _____ _____
Printed Name Signature Date

NOI Attachment

The following information shall be submitted as part of the NOI as required under Part II.B of the general permit:

1. The name and address of each property for which coverage under this general permit is being sought;

2. The name, address, telephone number, and e-mail address of an appropriate contact person for each property listed above;

3. A brief description of each property for which coverage is being sought. This shall include the approximate size, land uses, existing impervious areas and BMPs, a description of the stormwater conveyance system, other NPDES permits that have been issued by MDE, and other relevant information for each property;

4. A description of the BMPs to be implemented and the measurable goals that will address requirements under PART IV of this general permit. Guidance for BMP implementation and measurable goals is included in Appendix B, Section II and shall be reported according to Table1;

5. A work plan that outlines activities and milestones necessary to meet impervious area restoration requirements identified under PART V of this general permit. A suggested work plan is provided in Table 2;

6. A list of responsible personnel that will implement the BMPs and other program components to satisfy each requirement under PARTS IV and V of this general permit;

7. An estimate of the anticipated expenditures to implement the minimum control measures and impervious area restoration activities where coverage is being sought; and

8. An authorized signature according to PART VII.N of this general permit.

Table 1. BMP Reporting for Minimum Control Measures

Minimum Control Measures	BMPs Selected	Responsible Entity	Implement/ Completion Date	Measurable Goals
Public Education Outreach				
Public Involvement & Participation				
Illicit Discharge Detection & Elimination				
Construction Site Runoff Controls				
Post Construction Stormwater Management				
Pollution Prevention & Good Housekeeping				

Table 2. NOI Application: Impervious Area Restoration Work Plan

Timeline	Management Strategies and Goals
Year 1	Inventory total impervious area for all land area covered by this general permit. Inventory all existing water quality stormwater BMPs. Complete impervious area assessment and determine twenty percent restoration requirements. Assess opportunities and timelines for implementing water quality BMPs. Assess opportunities to develop partnerships with other NPDES permittees. Develop preliminary Restoration Activity Schedule (see Table 3).
Year 2	Submit complete Urban BMP database and verify that as-built design plans have been accepted by MDE or local approving authority. Update and submit maintenance and inspection records for all BMPs. Develop local or institutional watershed assessments and identify water quality problems and solutions for restoration. Begin implementation of restoration projects. Report progress on Restoration Activity Schedule and develop adaptive management strategies for BMP implementation to meet restoration goals. Incorporate future growth agency-wide/jurisdiction-wide master plans into restoration planning efforts.
Year 3	Continue BMP implementation and update Restoration Activity Schedule. Update Urban BMP database and document maintenance and inspection status. Submit as-built drawings to MDE or local approving authority for all BMPs. Evaluate lessons learned from BMP implementation and determine opportunities for improved processes and procedures. Continue to identify opportunities for water quality improvement projects and collaborative partnerships to meet restoration requirements.
Year 4	Obtain "As-Built Acceptance" letters from MDE or local approving authority. Update Urban BMP database and include status of maintenance and inspection activities. Update Restoration Activity Schedule. Submit narrative showing progress toward implementing restoration projects. Describe additional activities needed and schedule for achieving twenty percent impervious area restoration by the end of the permit term.

ANNUAL REPORT

National Pollutant Discharge Elimination System (NPDES)
General Permit for Discharges from Small Municipal Separate Storm Sewer Systems

This annual reporting form is intended for those State and federal agencies covered under the General Discharge Permit (No. 13-SF-5501) for Small Municipal Separate Storm Sewer Systems (MS4s). Submitting this report constitutes notice that the entity identified below is making progress to comply with all terms and conditions of the general permit. Annual reports shall be submitted to:

Maryland Department of the Environment, Water Management Administration
Sediment, Stormwater and Dam Safety Program
1800 Washington Boulevard, Baltimore, MD 21230-1708
Phone: 410-537-3543 FAX: 410-537-3553
Web Site: www.mde.maryland.gov

1. Contact Information

Agency Name: _____ Contact Person(s): _____

Mailing Address: _____

_____

Phone Number: _____ FAX Number: _____

Email Address: _____

2. Progress with Implementing Permit Requirements

Part IV of General Permit No. 13-SF-5501 specifies the reporting requirements and information that needs to be submitted to MDE by all permittees. This information includes the status of compliance with permit conditions, an assessment of appropriateness of the identified BMPs, and the progress toward achieving the measurable goals for each control measure and impervious area restoration requirements. In addition, any changes in the measurable goals shall be highlighted along with activities planned for the next reporting period. If certain minimum control measures are being implemented through coordination with another entity, all efforts shall be described. Tables 1, 3, and 4, of Appendix B shall be updated and submitted for reporting this information. In addition, a brief narrative as described in the reporting section of Part IV of the general permit and Appendix B shall accompany the required data tables. Agencies may attach additional information if necessary.